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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,366	03/30/2004	James William Bray	135481-1/YOD GERD:0089	4690
7590	08/31/2006		EXAMINER	
Patrick S. Yoder FLETCHER YODER P.O. Box 692289 Houston, TX 77269-2289			LAM, THANH	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 08/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/813,366

Applicant(s)

BRAY ET AL.

Examiner

Thanh Lam

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19,42-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19,42-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

1. Claims 42-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. the terms "lengthwise and crosswise" as recited in claims 42-46 fail to support by the specification.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-19 and 42-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Shoykhet (US6351045)

Regarding claim 1, Shoykhet discloses a rotating electrical machine, comprising: a superconductive rotor coil; and a rotatable shaft (316) comprising: an axial passageway (314) extending through the rotatable shaft; and a first passageway (374)

extending through a side wall (364) of the rotatable shaft to the axial passageway, wherein the axial passageway and the first passageway are operable to convey a cryogenic fluid to the superconductive rotor coil; wherein the first passageway ( 374 or 372) is oriented transverse to the axial passageway.

Regarding claim 2, Shoykhet discloses a second passageway extending through the side wall of the rotatable shaft to the axial passageway.

Regarding claim 3, Shoykhet discloses a first axial tube (350) and a second axial tube (311) disposed telescopically within the axial passageway.

Regarding claim 4, Shoykhet discloses a first axial tube and a second axial tube disposed side-by-side within the axial passageway.

Regarding claim 5, Shoykhet discloses the first passageway is coupled to the first axial tube and the second passageway is coupled to the second axial tube.

Regarding claim 6, Shoykhet discloses the first axial tube and the second axial tube are doubled walled.

Regarding claim 7, Shoykhet discloses the first axial tube and the second axial tube each comprise a coating operable to reduce the emissivity of the first axial tube and the second axial tube to reduce radiative heat transfer to the cryogenic fluid.

Regarding claim 8, Shoykhet discloses a cryogenic transfer coupling disposed radially around the rotatable shaft wherein the cryogenic transfer coupling is operable to direct cryogenic fluid to the first passageway and to receive cryogenic fluid from the second passageway.

Regarding claim 9, Shoykhet discloses the rotating electrical machine is a generator comprising a stator.

Regarding claim 10, Shoykhet discloses the first passageway and the second passageways extend radially through the rotatable shaft.

Regarding claim 11, Shoykhet discloses system for cryogenically cooling a superconductive rotor coil, comprising: a transfer coupling comprising a passageway (374 or 372) operable to be disposed radially around a rotatable shaft (316) to couple cryogenic fluid between a source of cryogenic fluid and another passageway (314) extending through the rotatable shaft, wherein the cryogenic fluid is coupled from the rotatable shaft to the superconductive rotor coil; wherein the passageway and the other passageway are generally transverse to one another.

Regarding claim 12, Shoykhet discloses the transfer coupling comprises a rotatable member secured to the rotatable shaft and a stationary member disposed in sealing arrangement with the rotatable member.

Regarding claim 13, Shoykhet discloses the stationary member is aligned to direct cryogenic fluid into a first passageway in the rotatable shaft and to receive cryogenic fluid from a second passageway in the rotatable shaft.

Regarding claim 14, Shoykhet discloses comprising a first axial tube and a second axial tube disposed within the rotatable shaft wherein the first passageway directs cryogenic fluid into the first axial tube and the second passageway receives cryogenic fluid from the second axial tube.

Regarding claim 15, Shoykhet discloses the first axial tube and the second axial tube are oriented in a telescopic orientation.

Regarding claim 16, Shoykhet discloses the first axial tube and the second axial tube are oriented in a side-by-side orientation.

Regarding claim 17, Shoykhet discloses the first axial tube and the second axial tube are double walled vacuum-sealed tubes.

Regarding claim 18, Shoykhet discloses the first axial tube comprises a coating operable to reduce radiative heat transfer from the first axial tube to the cryogenic fluid.

Regarding claim 19, Shoykhet discloses a first radial tube disposed in the first passageway to thermally insulate the cryogenic fluid flowing through the first passageway from the rotatable shaft.

Regarding claim 42, Shoykhet discloses a rotating electrical machine, comprising: a rotor coil; and a rotatable shaft comprising: a lengthwise passageway (314) extending in a lengthwise direction through the rotatable shaft; and a crosswise passageway (372 or 374) extending in a crosswise direction through the rotatable shaft to the lengthwise passageway, wherein the lengthwise and crosswise passageways are disposed in a coolant path extending to the rotor coil.

Regarding claim 43, Shoykhet discloses comprising another crosswise passageway extending in another crosswise direction through the rotatable shaft to the lengthwise passageway.

Regarding claim 44, Shoykhet discloses comprising a plurality of tubes disposed telescopically within the lengthwise passageway.

Regarding claim 45, Shoykhet discloses wherein at least one of the plurality of tubes is coupled to the crosswise passageway.

Regarding claim 46, Shoykhet discloses comprising a coolant transfer coupling disposed radially around the rotatable shaft, wherein the coolant transfer coupling is operable to exchange a coolant fluid with the crosswise passageway.

### ***Conclusion***

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (571) 272-2026. The examiner can normally be reached on tu-th 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh Lam  
Primary Examiner  
Art Unit 2834

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